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AN
ACCOUNT
OF THE
INVENTION
AND
USE,
OF
FIRE-PLATES,
FOR THE SECURITY OF BUILDINGS
AND SHIPS AGAINST FIRE.
By DAVID HARTLEY, Esq.

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ACCOUNT

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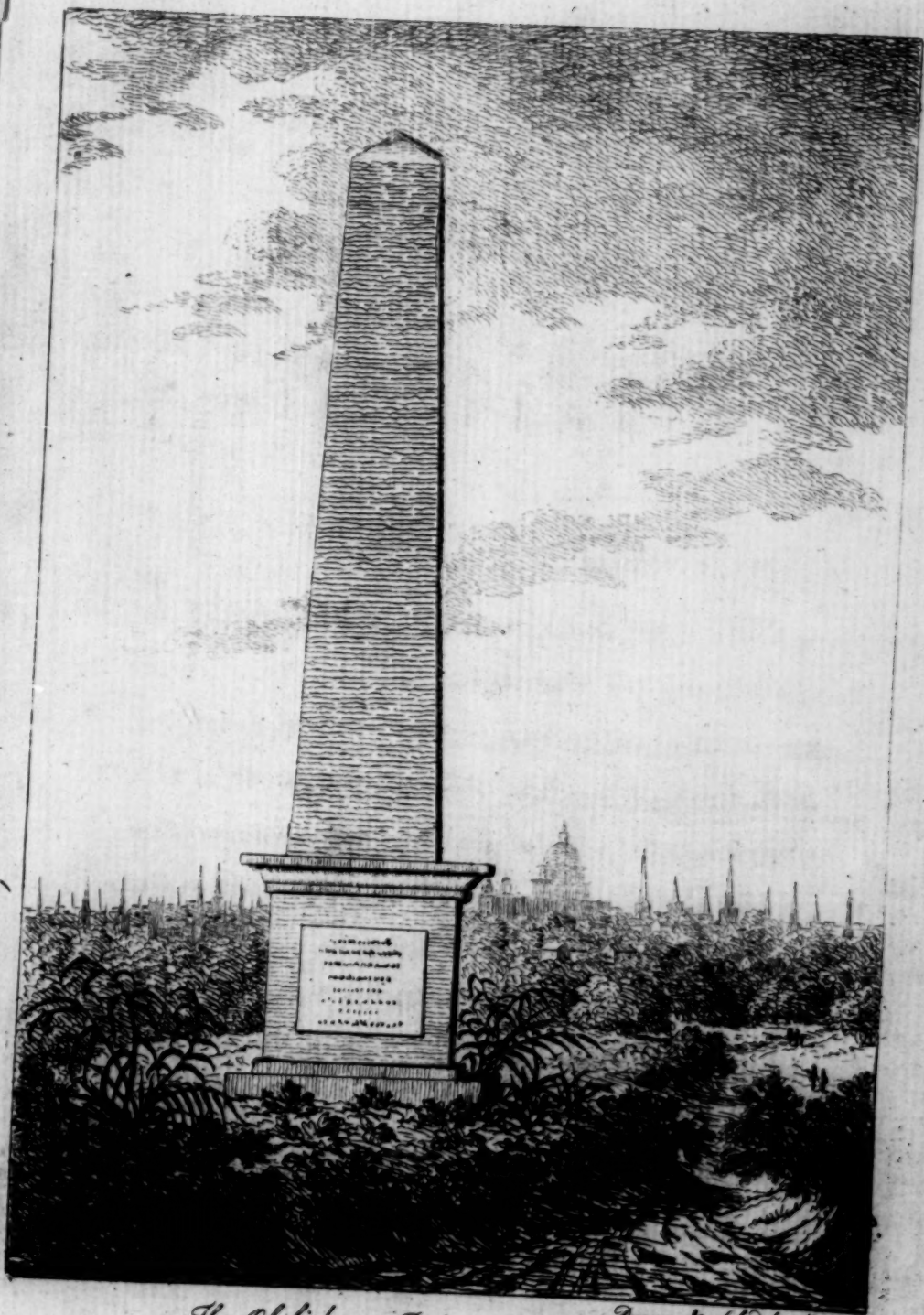


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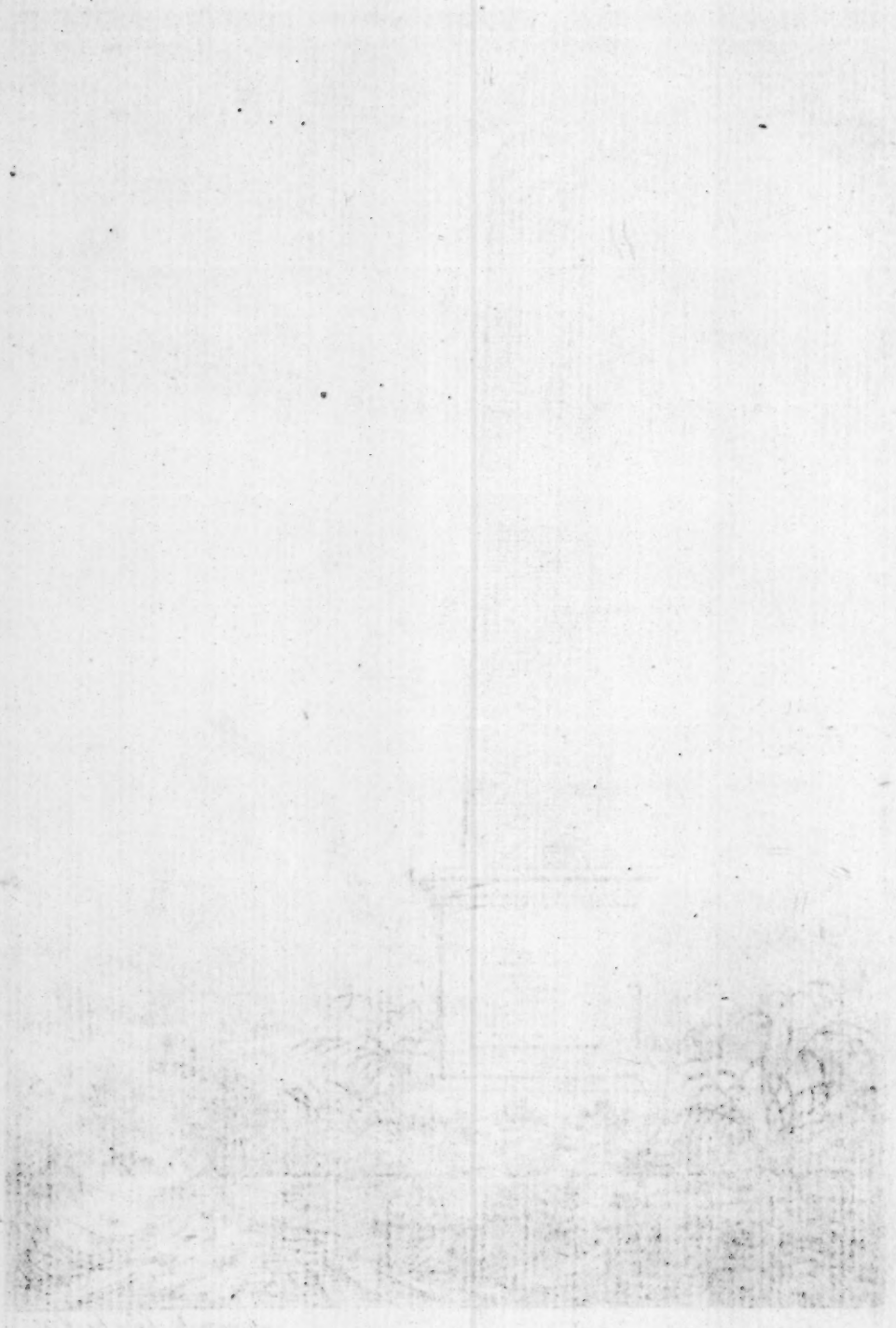
FOR THE SECURITY OF BUILDINGS

AND CHIEFLY AGAINST FIRE

BY DAVID HARRISON



The Obelisk on Putney Common *Drawn & etched by N.H.*
erected by order of
The City of London
in commemoration of the invention of
Fire Plates
for securing buildings against Fire.



AN
ACCOUNT
OF THE
INVENTION AND USE
OF
FIRE-PLATES.

AUGUST 1, 1785.

THE great number of Fires which continually happen in this kingdom, and particularly the great devastations which have lately been made by fire in the several parts of the metropolis, have produced a general alarm in the minds of men upon the subject; which naturally leads to the consideration of the extent of these dangers, and of the means of security which may be provided against them. The construction of houses in England, and the combustible materials of which they are composed, (being all built with fir timber) render them peculiarly liable to fire. The inhabitants of such houses, if they neglect to apply the proper and effectual means to counteract the combustible construction of them, must be subject to the ordinary dangers, which happen either by casualty or malice.

It is extremely irrational to suffer ourselves to lie open, through indolence, to such dangers as we have the certain means of guarding against. This is the case with regard to the casualties of fire, against which the proper application of fire-plates is a certain prevention; and nothing but prevention can, in this case, give security.

But the casualty of fire is very far from being the whole of the danger. Recent and fatal experience has pointed out to us more unmeasurable and inevitable dangers of fire, from malice and premeditation, than all those which common casualty and misfortune can hold out to our fears. A purse of gold, or a pocket book with bank bills, or a diamond necklace, or any moveable of value, may prove as fatal incendiaries in any house as the most combustible materials. The felon who premeditates a robbery, is by the same impulse driven, for the purpose of concealing the first crime, to perpetrate the most horrid of all crimes, by seizing the unguarded and helpless hour of rest and darkness, to overwhelm an unsuspecting and devoted family in fire and flames. If then the goods of fortune are deserving of preservation; and if life be still more precious than these, we have every inducement which can influence the mind of man, to make use of the certain and rational means of securing both from destruction by fire.

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The invention of preserving buildings from fire by the use of fire-plates, is now of some years standing. The principle has been thoroughly examined and verified, by many hundreds of the most severe trials and public experiments; and the practice and mode of application is universally known. Nevertheless, a short and summary account may be necessary to elucidate and explain the present state of this invention, and to promote the facility of its future use.

The proposed method of securing houses against fire by the application of the fire-plates, is by laying them under each floor. The *efficacy* of these fire-plates depends partly upon their preventing the immediate access of the fire itself to the timbers of the house, and partly upon their preventing that excessive *draught* of air, without which no house can be set on fire. The fire-plates do not in the least degree prevent such ordinary access of air to the timbers of any house as they now receive, according to the present mode of building. The joints and foldings are so numerous, that it is impossible to lay them so close as a common boarded floor; but the essential difference consists in this: that although there is a perspiration of air at every doubling and joint of the plates, yet these joints will never yield or

widen by the application of fire, to give a free current, and additional fuel to the beginning flame. The principle, therefore, is by no means the exclusion of air, for that point remains exactly neither more nor less than in the ordinary mode of building; but in the prevention of a *draught* of air, ascending vertically; viz. from below upwards. The fire-plates are incombustible in their nature, and are applied horizontally under each floor; by which means they prevent the ascending *draught* of air through the floors: and this is the principle of their operation and effect.

It is well known by constant experience, that fire will not burn under a common boarded floor to any effect, until the crevices begin to open. The plaister ceiling, which is below the joists, if it be made of good materials, and whilst it is new, is likewise a great preventive against fire. But all plaister-work, when old, becomes porous, and pervious to air: The main timbers, therefore, of an house lie in a very dangerous position; viz. between a flooring of deal above, which is very liable to open at the joints, and a dry and porous ceiling underneath, both of which contribute to let in just such a quantity of air as a lurking fire may subsist upon, without being extinguished. When this lurking fire begins

begins to widen the crevices of the floor, acquiring fresh fuel as well as air, and when the plaister of the ceiling below begins to drop, leaving the laths bare, like the most combustible faggoting, to spread the fire universally, and when a clear current of air and fire is opened through the frame-work of the timbers, joists, laths, and flooring boards,—then it is that the house is, properly speaking, on fire. But if we have it in our power, as by the fire-plates, to limit the possible progress of any commencing fire, so that it cannot open access to any *d aught* of air beyond very small apertures, nor by any means make a communication or free current between two stories; no fire under such circumstances can possibly gain any destructive ascendant. We are so accustomed to the frightful idea of an house on fire, that it requires some courage of the understanding, to believe that an house may be so provided, as that fire shall not be able to make any progress beyond a limited and very small degree. But the public trial of some hundreds of experiments has most fully evinced this truth, upon the principle of preventing fire in the beginning, at which moment it is as easily and certainly to be kept down, as it becomes tremendous if it once gets the ascendant.

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The experiments which have been tried under parliamentary authority, have been most public and decisive, in confirmation of the efficacy of the fire-plates, to resist every possible degree of fire. It is needless to remind the public, that they have been tried in the presence of their Majesties : of the Corporation of the City of London ; of the foreign ministers ; and in the presence of many thousands of other persons. The City of London voted a sum of money to erect a pillar to perpetuate the memory of their adoption, and conviction of the efficacy of the invention.

An house was built upon Wimbledon Common for the purpose of trying these experiments in the public world, and in the neighbourhood of the city of London. The plan, upon which these experiments were conducted, was to illustrate these two points, viz. the power of resistance to every possible degree of actual fire, and the power of prevention against the lurking beginnings of fire. The first case of resistance to every possible degree of fire is calculated for some dangerous trades, which are carried on in great cities ; such as distillers' shops, or turpentine-warehouses ; or, for certain public purposes of securing magazines of public stores, not only against hazards of fire by accident or treacherous malice, but even against the military fire of an enemy in the time of war. Such points as these may be accomplished

accomplished by applying the fire-plates above and below the timbers with dry sand or rubbish between: By these means the timbers become absolutely incapable of taking fire. In experiments thus tried with the double application, the room has been filled from the floor to the ceiling with faggots, and pitch and tar. Such experiments as these have been tried repeatedly in the same apartment, which, therefore, fully justify the assertion, that the double use of the fire-plates will resist the extremest power of fire. Such experiments as these are very astonishing, and so far lead to practical use, as in the few cases above specified, of security to great warehouses of dangerous combustibles, or to magazines of public stores.

But the experiments of less show are more applicable to the purposes of common life. To illustrate this latter class of experiments, which are of most practical use for common dwelling houses, where the single application of the fire-plates is used, some hundreds of trials have been made of large charcoal fires laid upon the flooring boards, without setting fire to the timbers of the house, or spreading in the least degree sideways, beyond those parts upon which the heaps of charcoal were laid, and lighted and left to burn out. These experiments have been repeatedly applied upon the same floor, and upon the same parts of it, without the fire having penetrated to the timbers of the house. Such trials

as these are infinitely more than sufficient to set any common house on fire, where the fire-plates are not used. Would any one consent to have an heap of burning charcoal laid upon the bare floor, day by day, for a month together? Yet this may very safely be done, where the fire-plates are applied under the floor only; for while the fire-plates under the floor guard the timbers of the house, any such floor upon which a fire is lighted is as free from danger as if it were a floor of stone. This is the part of the experiment which is of most practical use, more especially, as this invention is applicable to all houses that are already built, by only taking up, and relaying the floors.

It is a common phrase to say, that such or such an house took fire by accident, which in other words is only saying, that the cause is hidden. These hidden causes are likewise the most sudden, and it doubles the terror, not to know where the danger lurks, nor to have any warning; all looks well and unsuspectingly at bed-time, and the first notice is in the midst of flames. All the personal anxiety and vigilance that can be bestowed, may be deceived or surprized, but the preventive effect of the fire-plates is constant and universal; and if no one can devise a method of evading their efficacy, by any trials similar to those which can exist in common life, the point is proved. Other experiments have likewise been tried, by applying fire to the ceiling, where only the
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single application of the fire-plates has been used upon the upper surface of the joists, that is to say under the flooring boards of the apartment over head. The preventive effect of the fire-plates is equally certain in this case, by stopping the ascending draught of air, without which the timbers of the house cannot possibly take fire, or continue to burn of themselves. This class of experiments has been fully and adequately tried. For as it was not possible, in building a new house for experiments, to make an old ceiling of 30 or 40 years of age, and as the trial upon a new ceiling, which requires some years to become thoroughly dry and porous, might not have carried full conviction, care was taken for the sufficient proof of such experiments, that apertures should be previously made through the plaster ceiling, to admit the fire; and the trials were continued from day to day, to the same part of the ceiling and timbers of the house, a great number of times after the plaster-work was burnt down and destroyed. But the timbers could never be set fire to, so as to burn of themselves, nor would the fire ever spread side-ways. As long as the burning faggots were applied to the timbers, they were charred, perhaps to the depth of an inch of their substance. But the fire-plates over them acted as an unconquerable extinguisher, preventing them from taking fire and burning of themselves.

In the course of these experiments, in which, for the sake of the trials, adventitious fire has been introduced, such as charcoal, faggots, &c. we are insensibly led into the inconsistency of supposing an house protected by fire-plates to be capable of being set on fire; whereas the operation of the fire-plates is to prevent any such house from being set on fire. What we have to deal with at first, is perhaps no more than some small spark, which, with the additional fuel from the timbers of the house, and a current of air through the floor, might in time become an house on fire, but which, without the concurrence of either, must die away. It is an easier task to prevent fire than to extinguish it. Let the beginning of fire in any house be ever so secret, the preventive effect of the fire-plates is constantly in force, as an obstinate and unconquerable negative to its progress. A single fire-plate under an aperture in a floor, or over a crevice in a ceiling, might have prevented the fire of London. Prevention, when we have hold of a sound and applying principle, is not less certain, but on the contrary, far more secure than any subsequent remedy. This is the fundamental point to be kept in view with respect to the fire-plates.

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The preventive operation of the fire-plates being a negative, eludes positive demonstration; but to the eye of reason it will amount to demonstration, that if the fire-plates can resist the power of fire, when faggots and combustibles have given ascendancy to its fury, they will be much more capable of resisting it in its infant and commencing state. The fire-plates being incombustible, and being laid under the floor, will prevent any fire from dropping through chinks or crevices in the boards, to the timbers of the house, and lurking there until it forms a great body of heat, and bursts out all at once. In common houses a floor on fire is an house on fire; but in an house secured by the fire-plates, as the floor will not take fire to make a body of heat, how is the house to be set on fire?

As to the manner of the application, it has already been explained, that in common dwelling houses it will be sufficient to lay the plates underneath the floors. It would be a needless additional expence to apply them to the ceilings. They are never applied to ceilings, unless in the underground offices of town houses, such as a kitchen, a servants' hall, or a laundry. In such places, they may be used instead of plaister ceilings. The manner of laying the plates is simple and easy. The sheets are folded together to a sufficient length, and then nailed to the joists.

As to the expence it is very trifling, especially in comparison with the object which is the preservation of lives from fire. It is not very easy to ascertain any rate per cent. upon the expence of buildings, because the expence of various buildings, of the same dimensions, is totally vague and uncertain. Probably, upon an average of new buildings, it may amount to 2 or 3 per cent. or to half a year's rent to secure the whole property of the house, and all its contents. An house in London with three windows in a front of 24 feet, might be secured for 50 or 60l. An house of the next size, suppose 30 feet in front, might be secured for 70 or 80l. The next size, suppose four windows in a front of 36 feet, might be secured perhaps for 100l. The saving upon the insurance, and of the tax upon insurances, would be more than sufficient to pay the interest of the additional expence of securing the house from fire. Suppose an house of 36 feet in front, and 40 in depth, valued with its furniture and contents at 3600l., the insurance at 3s., together with the tax at 1s. 6d. for each 100l., would amount to 8l. 2s. per annum. This sum is the interest of 162l. at 5 per cent.; whereas an house of the dimensions above described might be secured with fire-plates for about 100l. This is not only a saving in point of expence, but the security of life is thrown into the bargain. The comparative expence is always proportionably less, according to the greater value
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of any house, with its furniture, and its contents. There are many shops in London, and many warehouses of merchants, which contain perhaps ten, or twenty, or thirty thousand pounds of valuable goods and merchandize, within a very small compass. The expence per cent. in such cases, is reduced to a very trifling consideration. And after all, who shall give an adequate estimate of the value of life itself, added to security without risque, and sleep without fear?

There are other subordinate conveniences attendant upon the use of the fire-plates. They contribute to preserve an house in cleanliness; they prevent the falling of dust from floor to floor, by the constant shaking, to which every house is liable, by the motion to and fro of its inhabitants; they deaden the communication of sound between separate floors; they likewise intercept the free passage of vermin, which are not only noxious and disgusting in themselves, but in common houses, they increase the danger of fire, by harbouring in plaister-work, and gnawing holes in secret places, which may contribute to ventilate and cherish the lurking commencements of fire. These are very inferior considerations, in comparison with the primary use of the fire-plates, for the preservation of life. It is sufficient just to make mention of them.

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It may be proper to mention two objections, which in the beginning of the invention were made to the fire-plates, together with the answers to them. The first is, that they may be liable to rust: the second, that they may injure the timbers of the house, by too great an exclusion of air. As to the first objection, of rust, the answer is, that the plates are painted. Paint will preserve iron from rust for some years, even when exposed out of doors. As long as a coat of paint continues sound and unbroken, it is an absolute defence against rust, or any other corrosion. What cause can possibly occur to break or disturb a coat of paint, lying at rest under flooring-boards an inch thick? It is the continual vicissitude of the elements of sun, wind, and rain that breaks the body of paint when exposed out of doors; but surely there can be no reason assigned for the supposition, that a coat of paint within doors, and under cover from wear and tear, should be liable to decay. There is as much difference between iron painted or unpainted to turn rust, as there is between an house roofed or unroofed to turn rain. Besides, supposing the boards to shrink, so as to admit moisture in washing the floors, by the same rule they will admit dust in sweeping floors,

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and consequently the interstices will soon be filled up. As the fire-plates lie close under the flooring-boards, the depth of the interstices between the boards can be but the thickness of a flooring-board, viz. about one inch. This depth, in common course, will soon be filled. When these interstices are once filled, the fire-plates will remain for ever inaccessible to any damp or moisture whatsoever. In short, the coat of paint originally laid upon the plates, added to the safety of their situation from all external injury, cannot fail to be a sufficient security against rust.

But if any one should be so scrupulous as still to be unsatisfied with the foregoing arguments, it is to be observed, that the principle and specification of the invention for securing a house from fire, by the fire-plates, is not confined to plates of iron, but extends generally to the application of plates of any metal to the several parts of buildings, so as to prevent the access of fire and the current of air. Accordingly fire-plates are now made of copper, rolled to a proper thinness, as well as of iron plates painted. The use of copper fire-plates will occasion some additional expence, but not very great; in recompence for which,

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copper fire-plates will always retain a great proportion of their original price in the intrinsic value of the copper. The most scrupulous persons may therefore use the copper fire-plates, if they think them indispensable for their quiet and satisfaction. And thus the objection of rust is compleatly and finally answered.

If it be an object of importance, which none can doubt, to preserve houses from fire, we should be disposed not only to consider objections with attention, but to use our best endeavours to accommodate and to obviate them. We may err by over-scrupulousness, as well as by inattention. Let it be remembered, that the fundamental principle is, that the fire-plates are incombustible, and that any accidental aperture or small crevice in them will not yield or widen by the action of fire. If indeed they were liable to perish in fire, the security expected from them might be attended with some distrust in timorous minds.

However, the utmost scruples that can be suggested upon this article of rust will be removed by the use of copper fire-plates; and, with this alternative in hand, all unreasonable objections will be repressed, and the persons concerned will form a more unembarrassed judgement upon the case, than while they feel themselves urged by a compulsive choice of
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terrors and scrupulous doubts on so interesting a point as security from fire. Henceforward, there will not be any ground for disputation or contention; fire-plates, either of copper or painted iron, may be used promiscuously, according to the opinion and option of the parties who shall make use of this invention for the preservation of their lives and property.

The peculiar object to which the copper fire-plates are adapted, is for the naval service, for the protection of ships against fire. As there are no plaister ceilings in ships, the fire-plates must at least be exposed on one side to the dashing and spray of the sea. And besides, from the constant working of ships in rough weather, the seams open, and the salt water would pour in upon the plates from all sides. In these circumstances, iron fire-plates, although painted, could not be expected to stand proof against the constant soaking and corrosion of salt water. For these reasons, copper fire-plates have been invented for security against fire at sea.

As to the second objection, of injuring the timbers by impeding the access of air, it is by no means the case, for the fire-plates are not air tight; nor can they by any means be laid so tight as a common boarded floor, which is well laid. In the course of the experiments, the fire-plates are found,

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when there is no other obstruction, to transmit smoke very plentifully, which is a visible proof that they are not air-tight. The mistake lies in supposing that the total exclusion of air is necessary to prevent fire from getting an ascendant; whereas, the real truth is, that no fire could subsist under a common floor, if the joints of the floor would not widen by fire, and thereby not only afford ventilation, but fuel, from the timbers and flooring boards themselves taking fire.

The objection, of injuring the timbers for want of air, was originally made to the mistaken supposition of applying the plates to both sides of the joists, viz. underneath, as well as above: but, as the fire-plates are only applied under the floors, it makes precisely no difference from the common method of building; and, upon this consideration, the objection is withdrawn by the builders who first suggested it. Every builder makes it his object to lay floors as tight as possible, and much closer than the plates can be laid. The counter-ceiling, which, in all good buildings, is put under the floor, contributes likewise to the tightness. Add to this, that every ceiling is made as tight as possible; and, in fine houses, where the ceilings are painted, are impervious to air. Yet the objection of dry-rot was never started against tight floors or painted ceilings. If such scruples had any real foundation, they

they would have prevailed over matters of mere superfluity and ornament.

With respect to the accident, which sometimes happens to the timbers of an house, and which is commonly called by the term of the dry-rot, and which we now impute to the want of the circulation of air, we do not know the real cause of it. Nothing is more common, than to find this dry rot, as it is called, in wainscots, which certainly cannot be from want of air. The most probable cause of dry rot, or rather, what should be called wet rot, is from damp walls, or other adventitious moisture, steaming upon the timbers of the house, as upon ground-floors, where there may be some spring or damp soil underneath. Upon the whole of this question of the dry-rot, it remains precisely as it was before the invention of the fire-plates. It is not an evil newly accrued since that invention, and therefore is not imputable to it. It will probably happen in such cases, and from such causes as would have produced it unconnectedly with the fire-plates, and not in any other. It is entirely independent of them.

It may remain uncertain, whether the want of a circulation of air simply, without adventitious moisture, would occasion the dry-rot. It is most probable that it would not, because, if that single cause would effect it, unconnected with any other, it might be expected that scarcely any house would

be free from it, as it is the great object of all workmen to make floors and ceilings as tight as they can. Nevertheless, though the simple exclusion of air may not give the dry-rot, yet it is still possible that the contrary principle, viz. ventilation of air, may afford a remedy, by exhaling and carrying off any adventitious moisture which might corrupt and destroy the timbers. In this view of the question, the fire-plates may be used even as a preventive against the dry rot, inasmuch as it is supposed to proceed from the want of air. Two or three courses of the brickwork in the external walls, for a foot or two in width may be left out, just under the level of each floor, and an iron grating may be inserted to give a free ventilation of air to the timbers of any new building for the first four or five years. After that period, the grating may be removed, and the brick-work filled up. To prove the certainty of this mode against fire, one of the apartments at the experiment-house upon Wimbledon Common was provided with grating in two opposite parts of the building so as to give a thorough ventilation and circulation of air to the timbers; and, in that apartment, which was secured only by the single application of the fire-plates, many hundreds of experiments were tried with perfect safety. The object for which that construction was adopted, was precisely to shew, that the use

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of the fire-plates, so far from being liable to the objection of dry-rot, might be converted into a security against it.

There is one general remark which deserves attention, as a fundamental principle in using the fire-plates as a security against fire; which is, that, if they are used, they cannot be defectively applied. In this point of view, they have the advantage over every other part of building. Brick-work, or plaister-work, or carpenter's, or tyler's work, is to be depended upon, more or less, according to the goodness of the materials, or the fidelity and vigilance of the workmen. But a fire-plate is one simple material, in which there is no difference of better or worse of the kind. There is no possibility for any workman to exercise a fraud, by the substitution of any inferior kind; for there is no such inferior kind. And in regard to the workmanship, that likewise cannot be defectively executed. The proper mode of laying the fire-plates is undoubtedly by nailing them upon the upper side of the joists, before the laying of the floors. But, if the grossest possible negligence be supposed, even that a workman should neglect to nail them previously to the joists, yet the flooring boards cannot be attached to the timbers of the house, without fixing and securing the fire-plates in their proper position of giving security against fire. In short, no house in which

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the fire-plates are applied, can be made habitable, without being made secure against fire.

As to the application of this invention to houses that are already built, it may be applied by taking up the flooring boards, and relaying them with fire-plates underneath. If the trouble and expence of relaying floors be objected to, fire-plates may be laid upon any flooring boards without disturbing them, and, after that, a thin sheathing of deal may be laid upon them. This is the most commodious manner, for the least expence, of applying this invention to houses already built, especially in bed chambers, and nurseries, and garrets. If the new sheathing be laid on in a neat and workman-like manner, it will serve to give a new face to an old floor, at the same time that it gives security to the whole house. The copper fire-plates are most convenient for this service. They lye between an old floor and the new sheathing without the least noise or crackling. Any apartment may be compleatly finished in a single day, only removing the furniture for the facility of the work, which is very simple and expeditious. This is a very important use of the copper fire-plates, and renders the invention of the fire-plates complete to all the purposes of houses already built, as well as to new buildings.

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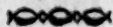
The copper fire-plates may likewise be applied for coverings to houses, and may be adapted in such a manner as to constitute fire-proof roofs upon the principle, and in the same mode as fire-plates are applied to floors of houses for security against fire. Copper fire-plates being rolled much thinner than ordinary sheets of copper, the expence of such roofs may be reduced to a very moderate sum. They require slighter timbers, and therefore much less expensive framework than common roofs. The copper will always retain its intrinsic value. These considerations will more than counterbalance any additional expence, and the quality of resisting fire is superadded.

It has been one of the most interesting objects of attention to the legislature, from the time of the fire of London, to prevent the repetition of so universal, and so horrid a calamity. Many acts of parliament have been passed upon this subject. The reigning principle in all these acts has been, to secure the metropolis from extensive devastations, by the communication of fire from house to house. The capital object in them, has been to introduce party walls between house and house. This object has been followed up with very strict and severe laws, and with the imposition of great expence upon the owners of houses in the metropolis, and within its environs, which would be needless for any house secured by fire-plates.

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Many regulations have likewise been made for the establishment of fire-engines, and of fire-men, for the extinguishing of fires; and many subordinate clauses have been introduced respecting chimnies, and hearths, and wooden partitions, and other details in building, which might render each particular house less liable to fire. But still no reigning principle has ever been adopted by parliament, to strike at the root of the evil, by establishing general security, upon the certain basis of individual and personal safety. Great public exertions have been made and enforced to prevent any individual from setting his neighbour's house on fire; but all the feeble efforts which have even been attempted, to give individual security in each private family, have been planned in despondence, and executed with inefficacy, from the want of some known principle to give rational hope of success.

The question is now, whether that rational principle be here offered to the public. The cause is theirs, and the final judgment must remain with them.



*An Account of Experiments made upon the Fire-plates,
in the Presence of the Corporation of the City of
London, together with their Proceedings thereupon;
extracted from the Records of the City of London.*

ON the 2d of September 1776, the Lord Mayor and Corporation of the City of London attended the experiments at Wimbledon Common, upon the efficacy of the fire-plates for the security of buildings against fire. And upon that day the foundation stone of a pillar was laid, with the following inscription :

THE RT. HON. JOHN SAWBRIDGE, ESQ.

LORD MAYOR OF LONDON,

LAID THE FOUNDATION STONE

OF THIS PILLAR,

ONE HUNDRED AND TEN YEARS

AFTER THE FIRE OF LONDON,

ON THE ANNIVERSARY

OF THAT DREADFUL EVENT,

IN MEMORY OF AN INVENTION

FOR SECURING BUILDINGS

AGAINST FIRE.

But for the more precise and accurate examination of these important experiments, the Committee of the Corporation for letting city lands, went a second time in their public capacity, as a Committee, attended by their officers, to see a repetition of them.

“ October 3, 1776. Committee of City Lands.

“ The Committee went to an house upon Wimbledon Common, erected by D. Hartley, Esq. and secured by fire-plates of his invention, fixed upon the joists, under the floors and staircase, and other parts thereof. And Mr. Hartley being present, caused a quantity of chips and pieces of wood fixed in a large iron cage to be hung up to the cieling, where a hole had been previously made in the plaistering; a bushel of charcoal to be laid on the floor of the same room; an heap of faggots on the floor of another room; and on and under the staircase; and one entirely filled with faggots, furzes, pitch and tar, &c. all which being set on fire at several times, were consumed without any material damage to the house.”

“ Resolved, That it is the opinion of this Committee, that the plates invented by D. Hartley, Esq. for securing buildings against fire, will be of great public utility, and are deserving of general encouragement.”

At a Court of Common Council at Guildhall, Nov. 22, 1776 :

“ A report was presented by Mr. Alderman Plomer, Chairman of the Committee of City Lands, containing an account of the various experiments which the Committee had seen upon Wimbledon Common, of Mr. Hartley’s method of securing buildings against fire, together with the resolution that the Committee had come to thereupon, viz. ‘ That the fire-plates invented by David Hartley, Esq. are of great public utility, and deserving of general encouragement; and that the Committee humbly offer it as their opinion, that it would be proper for this
‘ court,

“ court to recommend the use of them in all buildings where they
 “ may be conveniently introduced.” Upon which a motion being
 “ made, and the question put, that this Court doth agree with
 “ the Committee in the said Report :—the same was resolved in
 “ the affirmative.”

“ RESOLVED,

“ That it be referred back to the said Committee to direct, that
 “ in all future building leases, wherever they shall think proper,
 “ the said fire-plates be ordered as part of the plan.

“ That the freedom of this city be presented to David Hartley,
 “ Esq. in consideration of the advantage likely to accrue to the
 “ public by his invention for securing buildings from fire, and for
 “ his respectful attention to this city, and his repeated experi-
 “ ments performed before many of the members of this Court.

“ That a copy of the freedom of this city, with the resolution
 “ of the Court inserted therein, be delivered by the Chamberlain
 “ to the said Mr. Hartley.

“ That the said report and resolutions be fairly transcribed, and
 “ signed by the Town Clerk, and by him presented to Mr. Hartley.

“ That John Sawbridge, Esq. the late Lord Mayor of this
 “ city, having laid a foundation stone for erecting a pillar on
 “ Wimbledon Common, to commemorate the invention for secu-
 “ ring buildings from fire, by David Hartley, Esq. the Committee
 “ of City Lands be empowered to erect and compleat the same.”

In return for these honours thus conferred, Mr. Hartley present-
 ed his acknowledgement of thanks to the city of London in the
 following terms, addressed to the Chamberlain of the city :

S I R,

GOLDEN-SQUARE, March 28, 1777.

“ GIVE me leave, thro’ your means, to return my most grate-
 “ ful acknowledgements to the Lord Mayor, Aldermen, and Com-
 “ mons of the city of London, in Common Council assembled”

“ for

for the very distinguishing marks of their favour, which they have been pleased to confer upon me, in giving me admission to the freedom of so respectable a Corporation, with the additional honour of erecting a pillar to commemorate the invention for securing buildings against fire.

The general respect which I entertain upon all occasions for the city of London as the most important member of the community, and the peculiar propriety of offering an invention to their attention, which, above all, seems calculated for the security of great cities, were my motives for laying this matter before them. Their approbation of my conduct, and of the success of my labours, is the highest satisfaction to me. As they have been pleased to recommend the use of the invention in their own buildings, they may be assured, that nothing, in my power, shall be wanting to facilitate the execution.

It has cost me much labour and anxiety to bring the invention into that degree of forwardness in which it is at present; therefore I do more immediately and personally feel the kindness of the city of London in giving me their assistance and countenance in the prosecution of so important an object. As I know the public good to be the object of their attention, it is a double satisfaction to me to labour with them in the common cause, and to contribute my best endeavours under their powerful and respectable patronage. I beg leave to assure them, that the highest point of my ambition will, at all times, be to merit the approbation of my fellow citizens, and to obtain the good will of my country. I have the honour to be, Sir, your's, &c.

D. HARTLEY.

To the Chamberlain of the City of London.



